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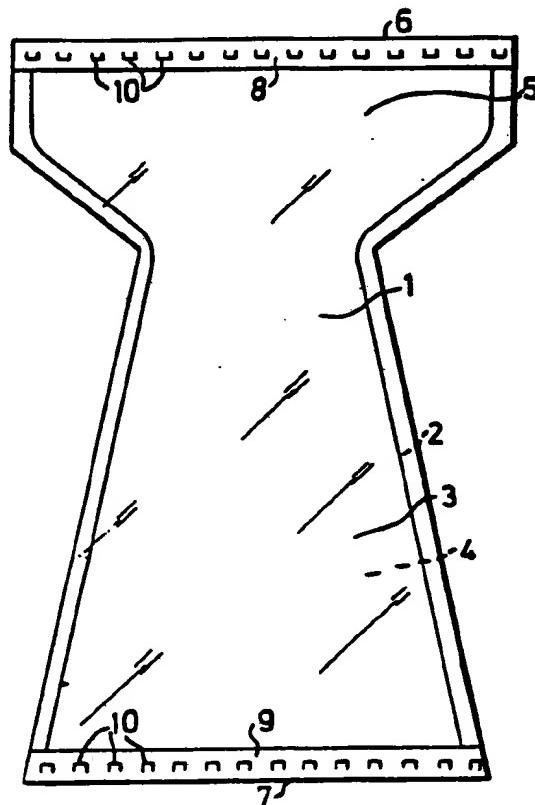
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(54) Title: DEVICE FOR THE SUPPORT OF AN ABSORBENT ARTICLE

(57) Abstract

The present invention relates to a device for supporting an absorbent article such as an incontinence protector, a diaper or the like. A device performed in accordance with the invention is distinguished by comprising a strap or belt (11) intended to be applied around the user's waist, and by having means (12) for engagement with coacting means (10) disposed on the article, which for its support is connectible to the strap or belt with the aid of said means.



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## DEVICE FOR THE SUPPORT OF AN ABSORBENT ARTICLE

The present invention relates to a device for supporting an absorbent article such as an incontinence protector, a diaper or the like.

Numerous types of such devices are previously known.

5 For example, elastic textile pants are often utilized to hold diapers or the like fixed in position during use. An alternative to such pants is the so-called all-in-one diaper which is composed of a plastic backing forming together with a diaper an integral unit. In its unused state, the most 10 common type of all-in-one diapers is principally shaped as a pair of underpants with open side seams which are joined together with adhesive tape when using the diaper so as to make it seal like a pant around the user's abdomen.

By being both easily handled and readily replaceable, the all-in-one diapers are certainly most useful in practice. Among adults suffering from incontinence however, the wide range of individual variations as to degree of incontinence and to bodily shape and size makes it almost impossible for economic and manufacturing reasons to 20 satisfy all demands with only a limited number of diaper variants available.

Therefore, a diaper fixed in position with the aid of a separate pant would be more useful for incontinent adults. By being able to chose the appropriate size of pant 25 independent of the type of diaper required with regard to degree of incontinence, there is provided for the user a large selection of combination possibilities from only a restricted number of pant and diaper sizes.

There is however a drawback associated with complete 30 diaper pants in that they are difficult to put on and replace on users of a specific category such as those incontinent, institutionalized patients who are heavy, immobile and incapable of standing on their legs, and bed-ridden or contractured patients. The use of complete

pants, which have to be wrenched over the user's legs to be properly applied, naturally complicates diaper change making it a time-consuming procedure for the nursing staff and awkward for the incontinent patient.

5       The application of pants which have to be threaded on over the feet may even cause trouble to disabled persons or those with coordination problems but otherwise capable of managing on their own at home.

10      With the present invention however there is accomplished a device of the kind set forth in the introduction and which eliminates the problem associated with previously known items of this type.

15      A device performed according to the invention is primarily distinguished in that it comprises a strap or belt intended to be applied around the user's waist and which is provided with fastening means for engagement with coacting means disposed on the article, the article to be supported being affixed to the strap or belt with the aid of said coacting means.

20      In one embodiment of the invention, the strap or belt means are eyelets or loops intended to engage with the means disposed on the article in the form of hooks, catches, buttons or the like. The strap or belt may even include a knitted, crocheted, woven or molded netting.

25      In another embodiment of the invention, the strap or belt is provided with hooks, catches, buttons or the like whereas the coacting means on the article consists of one or more meshed portions, or of apertures or eyes.

30      In a further embodiment of the invention the means disposed on the article are placed at the ends of cords or ribbons extending in the longitudinal direction of the protective article.

35      In a still further embodiment of the invention the strap or belt is made openable.

      The system including a waist strap or belt which is readily connectible with a diaper affords the possibility

of selecting waist belt and diaper independently of one another. Moreover, application of the waist band, especially if openable, onto the user's body is a most simple procedure. An additional advantage is gained in that even those with restricted ability of turning or bending down may easily manage to change on their own a diaper attached to a waist belt according to the present invention. The manner of performing such a diaper change will be described in the following.

In contrast to complete pants, a waist belt according to the present invention will generally remain unsoiled when worn and may be used several times before it needs washing. Of course, waist belts intended to be discarded when soiled are also conceivable.

A device according to the invention will be described in more detail below with reference to the exemplary embodiments illustrated in the accompanying drawings, of which

Fig. 1 is a plan view of a diaper provided with the inventive attachment means;

Figs. 2, 3 and 4 show various embodiments of the inventive waist belt intended for use in combination with the diaper illustrated in Fig. 1;

Fig. 5 is a plan view of a diaper provided with attachment means according to another embodiment of the invention;

Fig. 6 shows a waist belt intended for use in combination with the diaper illustrated in Fig. 5;

Fig. 7 is another plan view of a diaper provided with attachment means according to a still further embodiment of the invention; and

Fig. 8 shows the appearance of the diaper illustrated in Fig. 7 during use, together with a waist belt.

The diaper shown in Fig. 1 is of a conventional type comprising a liquid permeable inner layer 2, a liquid impermeable outer layer 3, and enclosed therebetween an absorbent body 4.

The diaper 1 has the shape of a T and is intended to be worn with the cross beam 5 of the T applied to fit snugly over the user's belly (see Fig. 4).

5 Bands 8, 9 provided with hooks are disposed at either transverse end 6, 7 of the diaper, which bands 8, 9 can be made of plastics or textile. The bands 8, 9 shown in Figs. 1 and 4 are plastic bands provided with punched-out hooks 10. Instead of such punched-out hooks 10, it would of course also be possible to utilize some form of detached 10 hooks 10 which are glued or otherwise secured to the bands 8, 9.

The diaper 1 shown in Fig. 1 is intended for use together with a waist belt having eyelets or apertures for engagement with the hooks. Examples of such waist belts 15 are shown in Figs. 2 and 3. The waist belt 11 of Fig. 2 is a plastic belt with punched holes 12, whereas the waist belt 13 of Fig. 3 is made in the form of an elastic netting with relatively widely spaced meshes for engagement with the hooks of the diaper. In order to facilitate application, 20 the waist belt can be opened and closed with the aid of fastening means 14, 15 which in the exemplary embodiment are Velcro type closures. Other types of attachment means are naturally also conceivable such as belt buckles, buttons or snap fasteners, for example.

25 A waist belt 16 can be made wide enough, as in Fig. 4, to overlap the diaper 1 during use for holding it tightly pressed against the wearer's body. In this manner the diaper will remain more securely in position reducing thereby the risk of leakage past the diaper edges. With a wider waist belt 16, however, additional points of attachment 17, 18 may be required between the diaper and the waist belt. In 30 the exemplary embodiment, such points of attachment 17, 18 are arranged at the groin region of the wearer.

35 The diaper 19 shown in Fig. 5 is similar to that of Fig. 1 with the exception however that the belt portions 22, 23 disposed at the short sides are formed as a compara-

tively coarse-meshed netting. Such a diaper 19 is used in combination with a waist belt 24 provided with hooks or catches, i.e. of the type shown in Fig. 6 constituting a plastic belt with punched-out hooks 25.

5       The diaper 26 of Fig. 7, which is in all essentials similar to the diapers 1, 19 shown in Figs. 1 and 5, has two longitudinally extending elastic ribbons 27, 28. The elastic ribbons 27, 28 end at the short sides 29, 30 of the diaper 26 into four loops 31-34 intended to engage with hooks or buttons 36-39 disposed on a waist belt 35 as shown in Fig. 8. The elasticity of the ribbons 27, 28 renders the diaper 26 extremely pliable and well-adapted to the movements of the wearer's body during use, which makes it pleasant and comfortable to wear. Furthermore, leakage is prevented to a high degree due to the elastic ribbons 27, 28 constantly holding the diaper 26 tightly against the user's body while simultaneously forming elastic leg linings sealing around the user's thighs. There are shown in Fig. 7 merely four hooks 36-39, although the waist belt 35 could of course to advantage be provided with additional hooks to ascertain that the orientation of the ribbons 27, 28 in their applied state coincides in all essentials with the longitudinal direction of the diaper 26, as indicated in Fig. 7.

25      In order to further enhance the security against leakage and to achieve a soft, upholstered leg lining, the diaper 26 could be provided, as indicated in Fig. 9, with small, detached absorbent pads 40, 41 located at either side of the absorbent body 42. The elastic ribbons 27, 28 extend through the diaper crotch portion in grooves 43, 44 disposed between the absorbent body 42 and the small, detached absorbent pads 40, 41.

30      To advantage, the application of a diaper and the inventive waist belt onto a user's body takes place in the following manner: The waist belt is applied around the user's waist whereafter the rear end of the diaper is

affixed to the forward portion of the waist belt. The belt is then rotated around the user's waist until the diaper has moved halfway around and is left suspended behind the user's back.

5           The forward free end of the diaper is finally brought up from between the user's legs and is attached to the waist belt across the user's belly. Since all twisting or bending movements of the body can be avoided throughout the procedure, even persons with disabled backs and legs would be able to  
10 put on and change diapers without help.

15           The diapers and waist belts described in the foregoing can be considered as merely exemplifying some embodiments of the inventive concept. Other fastening means such as, for example, Velcro tape of the like could be used as well.

A plurality of further modifications are conceivable within the scope of the patent claims.

## CLAIMS

1. A device for supporting an absorbent article such as an incontinence protector, a diaper or the like, characterized by comprising a strap or belt (11,13;24;35) intended to be applied around the user's waist and being provided with means (12;25;36-39) for engagement with coating means (10;22;31-34) disposed on the article (1;19; 26), which article for its support is affixed to the waist strap or belt with the aid of said coacting means.

5 2. A device according to Claim 1, characterized in that the coacting means (10,17, 18 and 12; 25 and 22; 23; 10 36-39 and 31-34) constitute hook members (10, 17, 18; 25; 36-39) and apertures or eyes (12; 22, 23; 31-34), respectively.

15 3. A device according to Claim 2, characterized in that at least either the waist belt (11, 13; 24; 35) or the article (1; 19; 26) comprises longitudinally and transversely extending portions and is provided with several rows of either hook members or apertures, said rows being oriented in parallel with the transverse direction of the 20 article in its applied state.

4. A device according to Claim 3, characterized in that the perforated portions are formed of knitted, crocheted, woven or molded nettings, and that the hook members (10; 25; 36-39) are hooks, catches, buttons or the like.

25 5. A device according to Claim 2, characterized in that the hook members (25; 36-39) are disposed on the waist belt (24, 35).

30 6. A device according to Claim 2, characterized in that the hook members (10) are disposed on the article (1).

7. A device according to Claim 2, characterized in that any one of said types of coacting means (31-34 or 36-39) is applied to the ends of cords or ribbons (27,28) disposed on the article and extending substantially in the longitudinal direction of the article (26).

8. A device according to Claim 2, characterized in that any one of said types of coacting means is affixed to one end of cords or ribbons which have their other end affixed to the article or the waist belt, said ribbons extending between the two end edges of the article and the waist belt.

9. A device according to Claim 7 or 8, characterized in that the cords or ribbons are elastic.

10. A device according to any one of the preceding claims, characterized in that the waist strap or belt (11) is openable (14).

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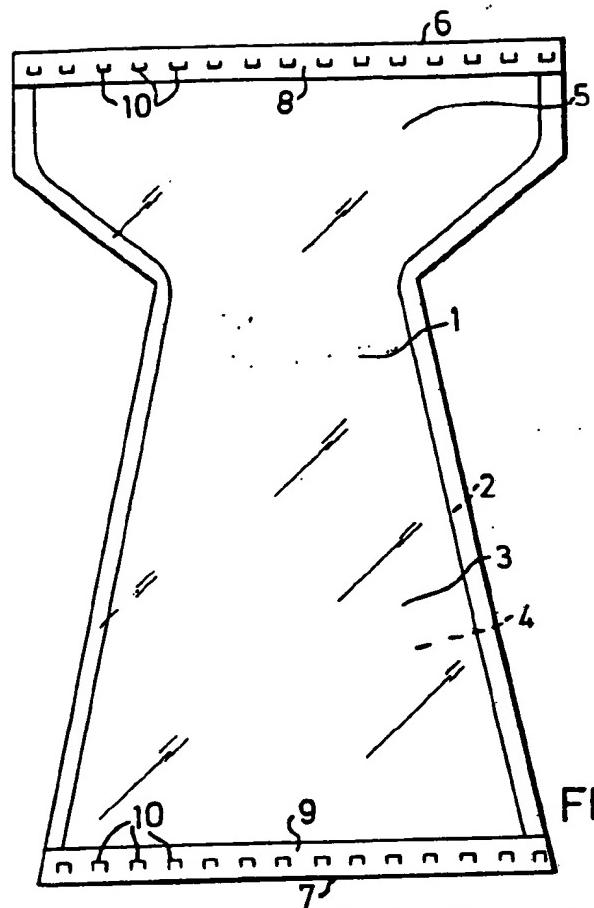


FIG.1

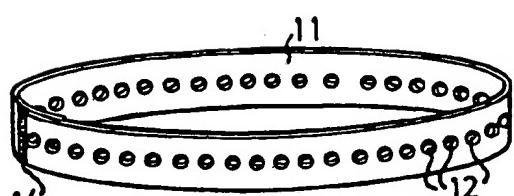


FIG.2

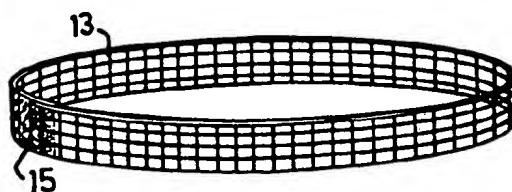


FIG.3

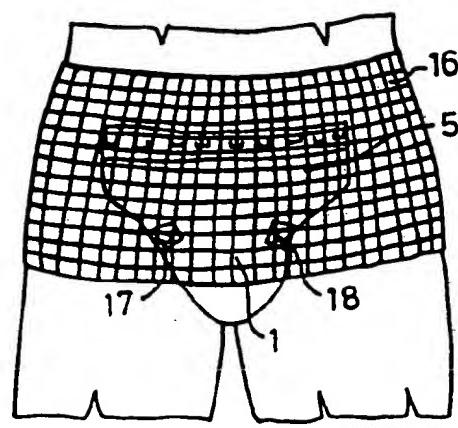


FIG.4

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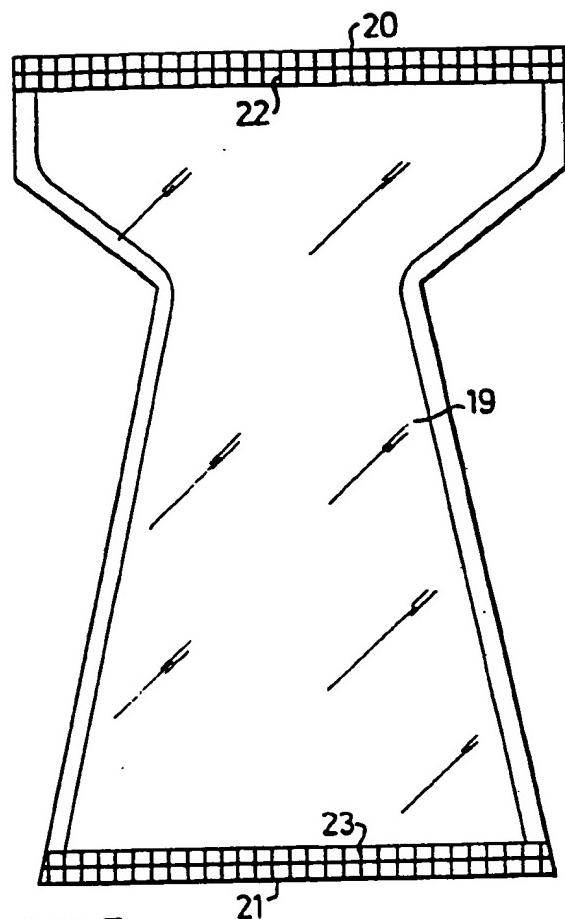


FIG.5

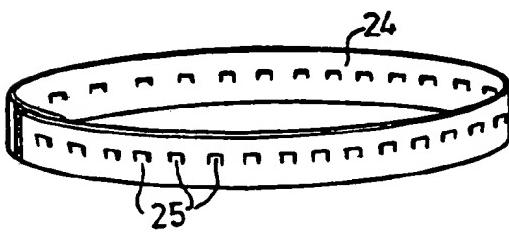


FIG.6

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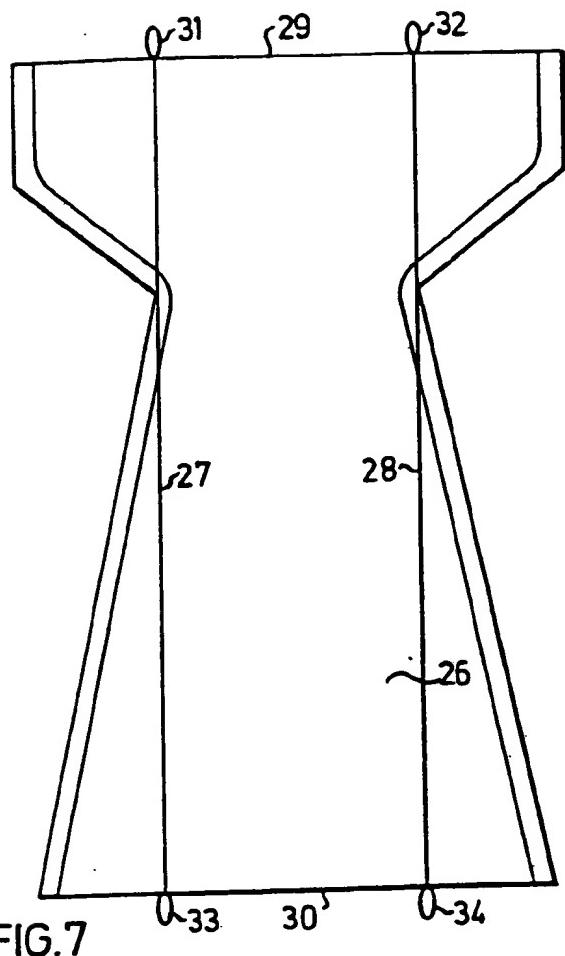


FIG. 7

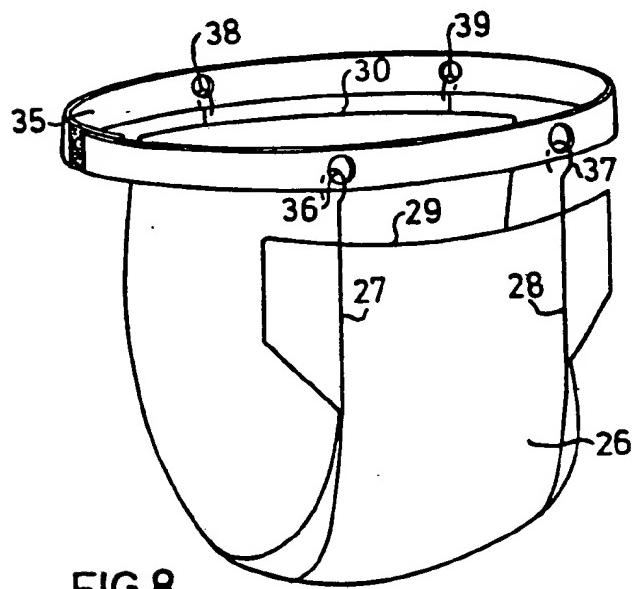


FIG. 8

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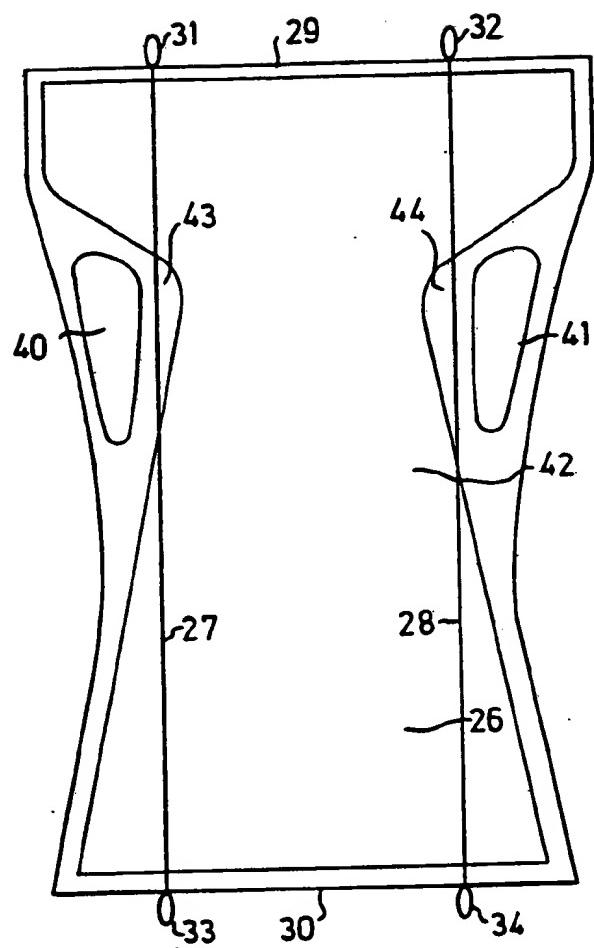


FIG.9

# INTERNATIONAL SEARCH REP RT

International Application No PCT/SE88/00116

## I. CLASSIFICATION & SUBJECT MATTER (if several classification symbols apply, indicate all) \*

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A 41 B 13/02, A 61 F 13/16

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Classification System	Classification Symbols
IPC 4	A 41 B 13/02; A 61 F 13/16
US C1	<u>128</u> : <u>284</u> , <u>287</u> - <u>290</u> ; <u>604</u> : <u>358</u> - <u>402</u>

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Category *	Citation of Document, ** with indication, where appropriate, of the relevant passages ‡	Relevant to Claim No. §
X	US, A, 3 441 025 (H J RALPH) 29 April 1969 & US, E, 28483	1-10
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## IV. CERTIFICATION

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Leif Karnsäter